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Educational Research Bulletin

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THE OHIO STATE UNIVERSITY
COLLEGE OF EDUCATION
GEORGE F. ARPS, *Dean*

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Prepared by

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Educational Research Bulletin

A CONTROLLED EXPERIMENT TO DETERMINE THE ADVANTAGES OF HOMOGENEOUS GROUPING

R. O. BILLETT
Painesville, Ohio

THE EXPERIMENT herein described covers three years of time, and it deals with the records made by three successive groups of ninth-grade students enrolled in Harvey High School, at Painesville, Ohio. Upon arrival at the doors of the high school these students had had eight years of preliminary instruction, covering supposedly the same ground, and were presumably all ready for high school. The lack of uniformity which they must have presented in ability, previous development, experience, and mastery of facts may be inferred analogously from the lack of homogeneity indicated by the ranges of their scores in the six English tests used in this study. The ranges of scores made by each of these year-groups are listed in Table I. The variations in initial accomplishment revealed by these ranges, are, of course, merely variations in whatever is measured by the tests used. Variations in other phases of ability—previous development, experience, and mastery of facts—can only be inferred by analogy. These three groups of pupils of heterogeneous ability were each known by the common term "Freshmen"; and the individuals received, ordinar ly, very much the same treatment.

Some critics would say at once that this is evidence enough that there should be some form of regrouping to procure greater homogeneity for the purposes of efficient instruction. Opinions would differ, probably, as to what should be the basis of regrouping. Other critics would say that this heterogeneity is desirable,

TABLE I

RANGE OF SCORES OF FRESHMAN CLASSES UPON ENTRANCE TO HIGH SCHOOL ON SEVERAL STANDARD TESTS

Tests	Range of Class of 1924–25	Range of Class of 1925–26	Range of Class of 1926–27
(1)	(2)	(3)	(4)
Terman Group Test (*IQ*).....	69–144	73–141	76–141
Briggs English Form Test...	12– 34	17– 34	12– 33
Charters Language Test....	7– 38	6– 37	15– 39
Charters Grammar Test.....	0– 37	1– 37	2– 36
Inglis Vocabulary Test.....	3–109	8–121	15–111
Hudelson Composition Scale.	1– 9.5	0.9– 9.0	1.8– 7.9

that able and brilliant pupils acting as pace-makers stimulate the average and slow pupils. This, after all, would merely be opinion. Although the opinions of careful and capable observers are valuable, when their opinions are at variance, objective data derived from scientifically controlled experiments should be offered. To present such data regarding the

use of homogeneous grouping in the ninth grade is the purpose of this article.

The records of three sections of students grouped homogeneously have been studied during each year of this experiment. The sections have been designated as "fast," "average," and "slow," respectively. Each year the records of two sections of heterogeneously grouped students have also been studied as control groups. Two of the most commonly recommended bases of grouping have been used and studied—the intelligence quotient derived from the group test of mental ability and teachers' rating. The expression "teachers' rating" is made plural, because the rating used was not that of one teacher but the average rating of from three to five teachers who had had charge of the pupils in class or home room during the preceding year. During the first year of the experiment the basis of grouping was the intelligence quotient derived from the Terman Group Test of Mental Ability. The records of 109 pupils are considered in the tabulations of the first-year results.

OTHER FACTORS CONSIDERED

Throughout the experiment other influencing factors have been regulated in order to procure, if possible, the grouping factor as a single variable.

Course of study.—During the entire three years of the experiment the basic course of study covered by all sections has been the minimum college-entrance requirements in English. The basic course consisted of (1) written composition; (2) oral language, largely reports of books read in the prescribed outside reading; (3) the classics necessary to meet college-entrance requirements; and (4) the essentials of grammar. The fast, the average, and the slow homogeneous groups have been able to master this course each year without many fatalities, while the fast and average groups have mastered additional material.

Time allowed.—The time elapsing between the first testing and the second testing was identical for both the homogeneous groups and the heterogeneous (control) groups. If a few individuals were absent on the day of testing, they were given a special opportunity to take the test immediately upon their return to school. During the first two years of the experiment the learning period, or period between tests, was thirty-three weeks; during the third year the learning period was reduced to thirty weeks due to a shortened school year resulting from temporary financial difficulties.

The teacher.—An experiment of this kind is at once invalidated if the teacher factor is not kept constant. If part of the groups are taught by one teacher and other groups by another teacher who can say whether the difference in results, if any, are due to differences in the methods of grouping or to differences in the ability of the teachers? One of the outstanding facts regarding this experiment is that during each of the three years all five classes of pupils who participated in this experiment were taught by the same teacher in the same classroom.

Measuring instruments.—The same tests were used simultaneously in measuring both the homogeneous and heterogeneous groups. Educational tests are in the early stages of development and are far from perfect. But even though a test is a somewhat imperfect measuring instrument, whether the results obtained through its use are significant or not can be determined by approved statistical methods. Some of the best available

standard tests in English, have been used to measure the results of this experiment; and they, in turn, have been supplemented by objective examinations built by the teacher with the aid of the principal, using objective techniques.

THE FIRST YEAR'S EXPERIMENT

The first year's experiment will be described in some detail. A statement of results will then suffice for the experiments of the second and third years without detailed discussion.

TABLE II

RANGE OF INTELLIGENCE QUOTIENTS AND AVERAGE INTELLIGENCE QUOTIENTS OF GROUPS OF 1924-25

Group	Number of Pupils in Group	Intelligence Quotient Range	Average Intelligence Quotient
(1)	(2)	(3)	(4)
Slow homogeneous....	15	69- 96	86.1
Slow heterogeneous...	15	69- 96	91.3
Average homogeneous	21	97-106	101.9
Average heterogeneous	7	97-106	100.6
Fast homogeneous....	30	107-144	116.3
Fast heterogeneous....	21	107-144	116.5

In May, 1924, the Terman Group Test of Mental Ability, Form A, was given to the eighth-graders who were to become Freshmen in the Harvey High School the following September. When the school was organized for the school year 1924-25, the first-year students in English were divided into five experimental groups or sections on the basis of their intelligence quotients.

The range of the intelligence quotients of the entire freshman class extended from 69 to 144. The following intelligence-quotient ranges were set for the three groups: slow, from 69 to 96; average, from 97 to 106; and fast, from 107 to 144.

The entire class was then ranked in the order of intelligence quotients, and the names of a sufficient number of pupils to make an ordinary-sized section in English were checked off from each third of the distribution. Care was taken to begin at the bottom of the range of each third and to check at approximately equal intervals in order that more or less homogeneous groups would result which would be truly representative of the thirds of the distribution from which they were derived.

The following educational tests were administered: Briggs English Forms Test, Alpha; Charters Grammar Test, Form 1; Charters Language Test, Form 1; Inglis Vocabulary Test, Form 1; and Hudelson Composition Scale, Form 1.

Throughout the school year the teacher in charge of the classes made such differentiation in classroom procedure as was possible and desirable because of the grouping. Frequently, identical lesson plans served all sections for the day. A typical lesson plan with variations for the different sections was described in an earlier article in this Bulletin.[1]

Tables II to IV tell in statistical terms the story of the first-year's experiment. The figures in these tables are derived from the scores of those pupils who finished the year and took all tests. The number of pupils included in each group and the average intelligence quotient may be determined from Table II.

The term "gain" used in Table III means the remainder when the score made on the first form of any test was subtracted from the score made by the same student on the second form of the test. Losses were treated as negative gains and were indicated by minus signs.

It should be understood that the six groups recorded in Tables II and

[1] Billett, R. O. "Differentiation of Freshman English for Groups of Different Abilities," *Educational Research Bulletin*, 5:189, April 28, 1926.

III were not all actual class groups. As has been said before, there were three homogeneous classes and two heterogeneous classes. In order that gains made by fast pupils grouped homogeneously might be compared with gains made by the fast pupils of a heterogeneous group, and in order that similar comparisons might be made for the average and slow pupils, for the purposes of this study the pupils of the two heterogeneous classes were redistributed into three groups: (1) those having intelligence quotients from 69 to 96, (2) those having intelligence quotients from 97 to 106, and (3) those having intelligence quotients from 107 to 144. Therefore, for the purpose of comparison there were six groups, but for the purpose of instruction there were but five, three grouped homogeneously and two ordinary heterogeneous classes.

A detailed study of the data and interpretation thereof may now be made. In four cases out of five the difference of the mean gains is in favor of the slow homogeneous group. In three cases out of five the difference of the mean gains is in favor of the average homogeneous group. In four cases out of five the difference of the mean gains is in favor of the fast heterogeneous group. The case here is not quite so convincing, because three of the mean gains of the fast heterogeneous group are but a trifle larger than the mean gains of the fast homogeneous group.

TABLE III

RELIABILITY OF THE DIFFERENCES BETWEEN THE MEAN GAINS OF THE HOMOGENEOUS AND HETEROGENEOUS GROUPS ON SIX TESTS

	MEAN GAIN*		DIFFERENCE OF MEAN GAINS	$\frac{M_1-M_2}{\sigma_T}$	PROBABLE ERROR	CRITICAL RATIO
	Homo-geneous	Hetero-geneous				
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Briggs English Form Test:						
Slow	3.27	3.20	.07	.02	.19	.088
Average	2.57	2.15	.42	.10	.29	.348
Fast	2.23	2.34	— .11	—.03	.31	— .085
Charters Language Test:						
Slow	3.46	3.27	.19	.02	.13	.191
Average	4.09	5.00	— .91	—.12	.19	— .625
Fast	2.86	3.39	— .53	—.07	.25	— .277
Charters Grammar Test:						
Slow	3.87	4.27	— .40	—.05	.18	— .27
Average	7.95	6.28	1.67	.20	.25	.812
Fast	7.36	7.48	— .12	—.01	.24	— .061
Inglis Vocabulary Test:						
Slow	6.07	5.67	.40	.02	.15	.127
Average	2.95	4.00	—1.05	—.05	.15	.332
Fast	11.60	8.76	2.84	.13	.14	.963
Hudelson Composition Scale:						
Slow	1.66	.39	1.27	.78	.13	6.019
Average	1.41	.41	1.00	.61	.19	3.243
Fast	.82	.92	— .10	—.06	.19	— .321

*When the gain of the heterogeneous group is greater than the corresponding gain of the homogeneous group it is preceded by a minus sign.

The largest gain of all, that on the Inglis Vocabulary Test, is in favor of the fast homogeneous group. However, mere size of gain, numerically does not indicate the degree of significance of the gain. For example, the total possible score on the Hudelson Composition Scale is 10. The total possible score of the Inglis Vocabulary Test is 150. Manifestly a difference of one point on the Hudelson scale is much more significant than a difference of one point on the Inglis test. Therefore, if no further analysis of the data were made, the conclusions would necessarily be: (1) homogeneous grouping on the basis of intelligence quotient is of distinct advantage to slow pupils; (2) it is of some advantage to average pupils; and (3) a slight handicap to bright pupils.

There are reasons for believing that these conclusions are true, but at least three influencing factors should be considered before arriving at a tentative conclusion. These factors are (1) initial accomplishment; (2) average ability of the groups matched against each other, as measured by average intelligence quotient; and (3) the probable error of the gains.

The data pertaining to initial accomplishment—omitted here because of lack of space—show that the slow homogeneous group was inferior to the slow heterogeneous group in initial accomplishment on the Briggs, Charters grammar, and Hudelson composition tests. The slow homogeneous group was superior to the slow heterogeneous group in initial accomplishment on the Charters language and Inglis vocabulary tests. The excess on the Inglis, however, may be disregarded, because it was only .93 of a point, whereas the standard deviation of the Inglis test is 21. It may therefore be concluded that so far as initial accomplishment is concerned the gains of the slow homogeneous group are all the more significant because in the past, under previous school conditions, the slow heterogeneous pupils for some reason had made greater progress than the slow homogeneous pupils and might reasonably be expected to continue this superior learning rate unless learning conditions were altered.

When the same reasoning is applied to results obtained by the pupils of the average groups, the conclusion is

TABLE IV

MARKS RECEIVED BY THE VARIOUS GROUPS ON A UNIFORM OBJECTIVE EXAMINATION

	A	B	C	D	E	Total Number in Group
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Heterogeneous Groups:						
A	4	4	7	7	3	25
B	3	2	8	5	6	24
Homogeneous Groups:						
Fast	6	13	6	4	0	29
Average	.....	5	11	4	1	21
Slow	.....	1	6	7	3	17
Total	13	25	38	27	13	116

reached that the factor of initial accomplishment tends to discount the gains made by the average homogeneous group. The average homogeneous group exceeded the average heterogeneous group in initial accomplishment on all five tests. For exactly the same reason given in discussing the initial accomplishment of the slow groups, it must be said that the gains made by the average homogeneous group must be discounted, not because they are not real gains, but because the average homogeneous group under the "hit-or-miss" grouping of their previous school years had also made gains over their fellows now in the average heterogeneous group. These questions may well be asked. If the pupils who at present constitute the average homogeneous groups have been able in their past educational experience to acquire more, as is shown by their superior initial accomplishment, is it not presumable that they will continue to acquire more whether given the probable advantages of homogeneous grouping or not? Can it be said that any minor gain is the result of homogeneous grouping? Will it not be necessary to show a very material gain to demonstrate any advantage from the grouping?

Concerning the initial accomplishment of the fast pupils it may be said that the fast homogeneous pupils were superior to the fast heterogeneous pupils in initial accomplishment on all tests used. When it is considered that the fast heterogeneous pupils showed slight gains in four out of five tests, which were greater than the gains of the fast homogeneous pupils on the same tests, and that the initial accomplishment of the fast homogeneous pupils was superior to the initial accomplishment of the fast heterogeneous pupils, one may almost certainly conclude that the heterogeneous grouping was better for the bright pupils.

A consideration of the factor of initial accomplishment therefore leads to the following modified conclusions: (1) homogeneous grouping is distinctly advantageous to slow pupils; (2) it is possibly of some advantage to average pupils; and (3) it is somewhat disadvantageous to bright pupils.

These conclusions need not be modified because of the factor of the average intelligence quotient, so far as the average and fast groups are concerned, as a reference to Table II will reveal. The average intelligence quotients of the two average and two fast groups are practically identical. Furthermore, the fact that the slow homogeneous group had an average intelligence quotient 5.21 points inferior to the average intelligence quotient of the slow heterogeneous group strengthens the case for the first item in the conclusions just given. The gains made by the slow homogeneous pupils over the slow heterogeneous pupils were made despite a distinct handicap expressed in terms of the intelligence quotient.

Before discussing the third factor influencing the tentative conclusions so far accepted—the probable error—the question should be raised and answered here as to the reason for this rather great disparity in average intelligence quotient between the slow homogeneous group and the slow heterogeneous group. The disparity is not due to careless arrangement of the groups at the beginning of the experiment, for the groups then were carefully balanced with respect to average intelligence quotient. The explanation of the disparity which prevailed at the end of the year furnishes one of the convincing proofs that homogeneous grouping is beneficial for slow pupils or pupils with low intelligence quotients.

The original data sheets show that eleven of the thirteen pupils from the heterogeneous group did not take the tests at the end of the year, because they had failed at the end of the first semester. Passing was based on an objective examination covering work common to all classes. A normal distribution was followed in assigning marks. Eleven of these thirteen failures from the two heterogeneous sections had intelligence quotients ranging from 92 down to 69.

With these facts should be contrasted the fact that out of a class of 22 pupils grouped homogeneously, with an intelligence quotient range of 70 to 96, there were but two failures. Within this group one girl whose intelligence quotient was 70 finished the work of the year with a passing mark.

In order that the difference of the mean gains made by the homogeneous and heterogeneous groups on all tests might be added so that a composite score showing the total gains on all tests made by one group might be derived, the difference of the mean gains was expressed in terms of the standard deviation of the test. The formula used was

$$\frac{M_1 - M_2}{\sigma_T}$$

in which

M_1 = the mean gain of the homogeneous group,
M_2 = the mean gain of the heterogeneous group, and
σ_T = the standard deviation of the test.

These measures are recorded in Column 5 of Table III.

Reducing the means to sigma values makes possible the algebraic addition of the differences of the mean gains. The total gain of the slow homogeneous pupils over and above the gain made by the slow heterogeneous pupils is .80 standard deviations; the total gain of the average homogeneous pupils over and above the gain made by the average heterogeneous pupils is .75 standard deviations; but the gain made by the fast heterogeneous pupils over and above the gain made by the fast homogeneous pupils was .04 standard deviations.

Table III also gives the probable error of the difference of the mean gains of each group expressed in terms of the standard deviation of the test and the critical ratio which is obtained by dividing the difference of the mean gains by the probable error. The probable error of the difference of the mean gains was computed by the use of the following formula[1]

$$\frac{PE_{M_1 - M_2}}{\sigma_T} = \frac{.6745}{\sigma_T}\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}$$

in which

σ_T = the standard deviation of the test,
σ_1 = the standard deviation of the homogeneous group,
σ_2 = the standard deviation of the heterogeneous group,
N_1 = the number in the homogeneous group, and
N_2 = the number in the heterogeneous group.

Only two of the critical ratios are as high as, or higher than, 3.0.[2] These are the ratios for the slow and average groups in composition. But, even where the critical ratio is as small as 1.0 there are 750 chances out of 1,000 that the ratio is not due to chance error or improper sampling.[3] These smaller ratios cannot be overlooked. As McCall puts it, in substance, "questions of the utmost

[1] The writer was fortunate to be a student in the statistical classes of Professor Herbert A. Toops during the early stages of this experiment. This formula was developed by him.

[2] Jones, D. C. *First Course in Statistics.* Chicago, Open Court Publishing Company, 1921. p. 160.

[3] Smith, H. P. *The Business Administration of a City School System.* New York, Bureau of Publications, Teachers College, Columbia University, 1925. Table XXXII, p. 129. (Teachers College, Columbia University, Contributions to Education, No. 197)

importance to human happiness including marriage and the hope of heaven, are settled on critical ratios smaller than 1.0."

Taking into consideration statistical measures given in Column 5 of Table III the following statements may be made. When the slow groups are considered, the measure in composition certainly indicates an advantage for homogeneous grouping. Although the other critical ratios are small, the fact that three out of the four favor such grouping makes a clear case as far as slow pupils are concerned. The measure in composition for the average groups certainly indicates an advantage for the homogeneous group. The remaining four measures contradict each other, two signifying advantage for the heterogeneous grouping and two signifying advantage for the homogeneous grouping. No measure is certainly significant for the groups of fast pupils. The general trend—four out of five—of the measures indicates an advantage for heterogeneous grouping.

From a consideration of the measurable results of the first-year experiment and from a consideration of all factors bearing on the significance of the results, the reasonable conclusion is that the measurable advantages of homogeneous grouping as carried out in this experiment go almost entirely to the slow pupil or the pupil of low intelligence. Average pupils may benefit somewhat from the plan, while the bright pupils are put to some disadvantage when measurable results are considered. The writer is fully aware that these conclusions are not at all in accord with the published opinions of others.

There yet remains the data from an informal objective examination to be considered. The examination used as far as possible the technique of the standardized test. It was comprehensive enough to give every one a fair chance; it covered only ground common to all groups; and was scored mechanically to eliminate the teacher's judgment in scoring. Table IV shows that one heterogeneous group contributed just as many failures, and the other heterogeneous group contributed twice as many failures, as did the slow homogeneous group composed entirely of pupils from the lowest third. The facts may be stated another way—out of 67 pupils grouped homogeneously, 4 failed; out of 49 pupils grouped heterogeneously, 9 failed. Looking at the other end of the distribution one sees that the homogeneous pupils earned 25 ratings of A and B; the heterogeneous pupils earned only 13 ratings of A and B. If this examination were to be the sole evidence, it would be necessary to conclude that homogeneous grouping was better for all classes of ability as measured by intelligence tests. The results combined with the results from the standardized tests make an almost perfect case for homogeneous grouping for slow pupils.

CONCLUSIONS

1. Homogeneous grouping on the basis of intelligence quotients is decidedly advantageous for pupils of low ability.
2. Average pupils probably do better when grouped homogeneously.
3. Bright pupils accomplish somewhat more when grouped heterogeneously.

(*To be continued*)

TWO TEACHERS

Recently there came to my desk an article written by a teacher, which deals with many of the deficiencies in the educational system.[1] He begins

[1] "From the Inside Looking Out," *The Rotarian*, 31:12-13. October, 1927.

with the educational theorists "who never taught a day in their lives," and pays his respects to "titled supervisors and superintendents who delight in pushing the aforementioned theories in order to keep themselves or someone else in the limelight." He goes on to criticize the fads and fancies foisted upon the harassed, unprotesting teacher. He mentions individual instruction and reports to parents; he condemns grade skipping, over-organization and over-systematization of the schools, and the parental attitude toward teachers; he finds fault with the parent-teacher movement, which is all right if the parents do all the work and accept all the responsibility; he feels that teachers do their best teaching after they have become "numb," which can only mean "numbness" to everything except his special subject; and he winds up with this sentence: "Your boys and girls are being taught today in too many cases by the hop, skip, and jump method which is too often a jump or two ahead of the teacher (sic!) and worse than confusing to the immature mind of the youth who has just reached the age where he is struggling for a balance."

I wanted to answer this teacher, first, as one who has been called upon to teach educational theory, although laying no claims to being an educational theorist; second, as a superintendent who sweat blood trying to get his teachers to help with suggestions; third, as the director of a testing program who found an occassional young enthusiast claiming more for the tests than he could substantiate, but who more often found teachers excusing their own failures because intelligence tests showed the pupils to be "dumb-bells"—this, in spite of repeated warning against so using the tests; fourth, as a worker in parent-teacher work, which usually became parent work because the teachers were too tired at the end of the day, though many of the mothers had worked hard and continuously so that they might come to meet the teachers; fifth, as a parent who has tried to get definite information concerning the progress of his child only to be met with cool indifference or platitudes and generalities.

Later I found an article by another teacher[1] who does not attempt to cover the whole field, but who frankly says that she has not been receiving much help from her principals and supervisors. "Complex professional relationships are involved. And besides, I do not know with any degree of exactness what is wrong with our *status quo*. I feel that much is wrong, but mere feeling should not precipitate broad condemnations."

"For the present I am concerned with myself, my teaching, and my pupils." These latter are covering the prescribed course successfully, but "in probing into my practices and the technique of my average class-teaching I have discovered two profound truths! First, I have been holding Spanish as the paramount consideration rather than the pupils; and, second, I have been doing too much of the work myself, making assignments, checking recitations, hearing answers, and directing them toward the goal of the passing mark."

She finds three things which she feels that she can do to improve her work. Some of these she can do alone with her classes, some require the cooperation of other teachers and supervisors.

After due consideration to the spirit of the two teachers as exemplified in the articles, which would you rather have in your staff? The latter! So would I every time. J. A. B.

[1] "One Teacher's Problem," *American Education*, 31:43, October, 1927.

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OBSERVING THE EDITOR AT REST

As readers of the Bulletin were informed recently, the editor of this palladium of learning has taken a vacation. Ordinarily, such an occurrence would hardly be worth mentioning, but this was no ordinary case. When a scholar and man of affairs tries to break the habits of a lifetime by taking a vacation, the experiment is of sufficient interest and importance to warrant a brief report.

How does a man spend a vacation which has been overdue, let us say, a matter of twenty years? The readers who happen to be personally acquainted with Dr. Buckingham will not be surprised to learn that he entered upon his vacation in the strenuous mood. He was going to rest, come what might. When he joined his friends in sunny Florida, his general manner was that of a man still enveloped in the glow of a brand new set of New Year resolutions. This general attitude at once marked him off from his colleagues who were already on the ground. We were merely resting, with no thought of any high idealism about it. Not one of us had brought a manuscript to be edited, let alone two suitcases full, in order to provide relaxation and recreation during idle moments. We had not even discovered, as Dr. Buckingham very promptly did, that stenographic service was available here for facilitating, through epistolary channels, that sweet communion of souls which is so apt to be neglected in the rush of modern life. Our efforts in that direction had been confined largely to the sending of picture postal cards, on which we inscribed the fond wish that the recipient also might be here.

The editor's rest has now reached a termination. The vacation is over and done with as far as he is concerned. Dr. Buckingham would naturally not want to waste a great deal of time on it. Both his coming and his going were something of a shock. During the short period that he was with us our minds and souls were attuned to higher things, but the community now feels that a moral prop has been withdrawn, and it is slowly settling back into normalcy. To tell the truth, the village postmaster is frankly glad, since he is now relieved of a heavy extra burden. On the other hand, the writer of these lines wishes to express his sincere and keen regret. At Dr. Buckingham's departure the writer automatically reverts to his former status of being indisputably the worst golf player in the state of Florida. However, he is humbly grateful for the brief respite from that odious distinction. Besides, he received a priceless lesson in perseverance from watching Dr. Buckingham's heart-breaking struggles in the bunkers.

The high watermark, however, of the editor's vacation was reached when he began to philosophize about education and life. Some observers claim that philosophy is engendered when fullness of experience is combined with leisure. Others hold that

philosophy is a lazy man's substitute for the labor of scientific research. Very likely both views are correct. At any rate, it came about that Dr. Buckingham and the writer joined forces in reviewing the state of the nation. In this undertaking their thoughts coalesced in a harmony truly beautiful to behold. Some inkling of their conclusions was furnished by the editor in his own account of his vacation. The topic, however, is of sufficient importance to warrant a little elaboration.

We are living in an era of scientific education; thus ran our cogitations. Very often we get the impression that all the important problems in education are by way of being solved. But, is the situation quite as simple as it is often made to appear? How much are we entitled to expect from the application of scientific method? If men want to maintain a complex civilization, science will show them how it can be done. But why should men want to do this? To this question science has no answer. It is concerned with means, not with ends. Consequently, the suggestion lies at hand that there is something questionable about all this talk of "scientific curriculum-making" of which we have heard so much in recent years. If we have once decided upon our objectives, science must be depended upon to show us how these objectives can be realized. However, the determination of objectives, it appears, is not a scientific question at all.

This conclusion, be it understood, was treated as merely provisional. If correct, it means that questions of program or policy in education are questions for philosophy, whereas questions of fact or means are questions for science. To the two philosophers meditating on the deep things in education on the sandbanks of Florida this inference seemed to offer a working basis for an *entente cordiale* between the science and the philosophy of education.

Perhaps it was possible for the two aforementioned philosophers to reach this understanding because Dr. Buckingham, being on a vacation, was disposed to take a conciliatory and even genial attitude. It must be repeated that this settlement is subject to modification and emendation. If we may judge from the past, the philosopher in any given case is more likely to be wrong than right. His coefficient of error is about as high in philosophy as in golf. It may be that a philosopher on a vacation is not entitled to any consideration at all.

Many questions naturally came up which cannot be discussed here. What do we mean by scientific method? How is philosophy to be differentiated from science? What is the relation of both philosophy and science to common sense? Dr. Buckingham, on his return to his editorial office, will be glad to elucidate these and related matters to any that may be interested. Here in Florida all is peace and quiet again.

B. H. BODE

FRESHMEN WEEK

Freshmen will be welcomed to the campus five days early again this fall. The plans for a better, more successful week are already well matured. Probably the biggest change that has been made from last year's program is that of having one hundred faculty members as sponsors for the one hundred groups of Freshmen, each faculty member to act as a guide and counsellor for his section. He will be assisted by a student from one of the upper classes.

The faculty member will have access to all the personnel data concerning his students. These data are

gathered by the University Examiner in the course of admitting the students. In this way the faculty member will have an opportunity actually to get acquainted with his student group, and the students in turn will have a chance to learn that a professor is also a human being.

The general plans for the week include practically the same features as last year, but with some rearrangement and a few modifications. The students will come to the campus on Wednesday, and the "get-acquainted" assembly will be held that evening. Tentative plans for the assembly indicate an address of welcome by President Rightmire and short addresses by other members of the faculty.

All of the psychological tests will be given on Thursday, the first day, instead of being scattered over several days. The campus tour is also scheduled for the first day. This is a personally conducted trip around the campus and to the various buildings. The history and traditions lecture will be a part of the campus tour. In this way, the new students will have an opportunity to learn where the buildings are and the activities which they house, as well as the spots which are of interest historically and traditionally. Other activities of the week include the physical examinations, instruction by groups in methods of study, check-up tests on previous preparation, laboratory exercises on the use of the library, lectures on health, a military lecture, measurement for uniforms, and vocational conferences.

Methods of study will include exercises in note-taking, attitudes toward study, methods of attacking new assignments, and suggestions on time-budgeting. The check-up exercises are in reality standardized tests in the tool subjects. Students will take these tests, check their performances against the standards, and then, if not up to standard, receive suggestions for remedying their errors.

Evening meetings after the first will be optional. On Thursday evening the various colleges will entertain and on Friday evening the churches near the University will have open house. On Saturday afternoon a big rally will be held in the stadium, while the Y. M. C. A.-Y. W. C. A. Mixer is scheduled for Saturday night.

J. A. BAER

A COURSE IN NATURE STUDY

A course in Nature Study consisting chiefly of field and laboratory work is to be offered during the first term of the Summer Quarter at Ohio State University. Three hours of credit will be given for this course which will consist of two lecture hours, three laboratory periods of three hours each, and assigned field work. Mr. Hambleton, supervisor of nature study in the Columbus schools, will conduct the course which is designed for teachers of nature study in the elementary schools and is planned to give the student an opportunity to get a working knowledge of the common things of nature which children and others meet in their daily pursuits. Demonstration classes also will be conducted to show the best methods of presenting the work to pupils of different grades.

Native trees and shrubs, common flowers, weeds of garden and lawn, birds, reptiles, and a few insects will be studied. Special instruction will be given regarding the use and care of an aquarium in the school or home.

The persons who wish to take this course will need to reserve either the entire afternoon or morning for the laboratory work. Each section will be limited to twenty-five students.

THE ORIGIN AND DEVELOPMENT OF THE MUNICIPAL UNIVERSITY IN THE UNITED STATES

R. H. Eckelberry
Ohio State University

CONDITIONS THAT HAVE LED TO THE DEVELOPMENT OF THE MUNICIPAL UNIVERSITY

Preceding articles in this series have shown that the establishment of municipal universities in the United States has taken place through a considerable period, 1837 to 1926, and under a great variety of circumstances.[1] In no case has a municipal university been created by a city at one operation and without financial assistance. In certain cases—Charleston, South Carolina, Akron, Ohio, and Wichita, Kansas—an existing college was taken over by the city as a means of enabling it to continue its work. In New York, a Free Academy and a Normal College, established by the city's Board of Education, were developed into City College and Hunter College, respectively.[2] The University of Cincinnati owes its origin to a bequest given the city for educational purposes. With this other educational foundations have from time to time been combined. The University of Louisville, at Louisville, Kentucky, for many decades comprised only departments of law and medicine; a college of liberal arts was added later. The University of the City of Toledo, at Toledo, Ohio, developed from a financial foundation donated for a manual-training school of secondary grade. In Detroit, the City College resulted from the extension upward of a public junior college, the College of Medicine and Surgery was transferred from private to city control that it might continue its work, and the Teachers College grew out of the two-year City Normal School. The City Law School was added as a new department in 1927.

In two cases—the New York Free Academy and the University of Wichita—the establishment of the institution depended upon a favorable vote in a referendum. At Toledo and Louisville, the development of a university out of an existing municipal educational institution of non-college grade was due to the initiative of the governing board of the institution. At Charleston, the City Council proposed the transfer of the college to the city; at Akron, the suggestion for the transfer came from the President and Trustees of the college. The President and Trustees of Fairmount College, at Wichita, also made the first move to change from a private to a municipal institution, but the successful campaign for the establishment of a municipal university was led by the Chamber of Commerce.

Judged by available records, those responsible for the development of these municipal institutions have been influenced by a variety of reasons. Some of these reasons have been the desire to keep young people under parental supervision during a critical period in their lives, to improve the work of the public schools, to provide a more practical education than that afforded by existing colleges,

[1] See Nos. 1, 2, 4, and 5 of this volume for articles under the same title.

[2] The Free Academy comes the nearest to being an exception to the statement that in no case has a city created a municipal university *de novo* and without financial assistance. This institution was so created and did work equivalent to that of contemporary colleges, but it had neither the name of college, nor the right to confer degrees.

to provide better means for the training of teachers, to provide a center of culture for the city, and to meet specific local educational needs. Local civic pride and rivalry with other cities, the belief that a local college is of economic advantage to a city and that a municipal university can serve a city in many ways outside of classroom instruction, the existence of local educational foundations whose consolidation to form a university was desirable, and the example of other institutions are also included among the reasons.[1]

Notwithstanding this variety of reasons, there is a common factor in the origin of these municipal universities. In every case, individuals influential in their development have stated, as a principal reason for their creation, the democratic desire to provide educational opportunities for those who could not afford to leave home to go to college. The municipal university has undoubtedly contributed in fact, as well as in intention, to the equalization of educational opportunity. It is a matter of common knowledge that the principal item of expense in securing a college education is not tuition fees but living expenses. The city youth who attends his own city college not only can live at home, but he can also earn his own living. To meet the needs of students who are employed during the day all municipal universities have established evening classes.

The common-sense conclusion that the establishment of this type of institution has democratized educational opportunity is confirmed by various studies of the student bodies of municipal universities.[2] These have shown that a large percentage of the students could not have secured a college education had they not been able to attend the city college. The development of the municipal university may thus be regarded as a step in the great movement for further extension of educational privileges.[3]

The municipal university also represents certain other broad tendencies in American civilization and American education which perhaps have not operated so directly and consciously as has the democratic tendency. However, their importance in the development of this type of institution is not thereby decreased. These include the secularization of education and the urbanization of our civilization.

The secularization of elementary, secondary, and higher institutions in control and content has been one of the outstanding features of our educational development, and a most important element in this growth has been the establishment of schools under civil control. The municipal university, of course, belongs to this class of institutions. There is no evidence that the development of the municipal university was the occasion of sectarian struggles, such as took place in certain states with the secularization of the elementary schools, or that public dissatisfaction with privately controlled institutions was an important factor here as it was in the rise of the high school and the state university.[4] The desire for secularized education cannot, therefore,

[1] It is impossible to present here the documentary evidence upon which this statement is based. It is hoped to do so soon in a monograph on the municipal university in the United States.

[2] See *A Study of the Student Body of the University of Cincinnati*. Cincinnati, University of Cincinnati, 1913. p. 25 *passim*; *Facts Regarding Akron's Municipal University*. Akron, University of Akron, 1915. [Unnumbered]; *Proceedings of the Board of Education of Detroit, Michigan, 1921-22*, p. 175; *The University of Louisville Answering Questions Asked by the People of Louisville about the University*. [No date nor place.] p. 13.

[3] See this Bulletin, January 11, 1928, pp. 1-4.

[4] See Cubberley, E. P. *Public Education in the United States*. Boston, Houghton Mifflin Company, 1919. pp. 171-81; Brown, E. E. *The Making of Our Middle Schools*. New York, Longmans Green and Company, 1924. pp. 279-80; Brown, E. E. *The Origin of American State Universities*. Berkeley, California. The University of California Press, 1903. pp. 32-34.

be said to have contributed to the establishment of the municipal university in the same direct way as has the desire for extension of educational opportunity. Rather, in recent times, our educational practice and our thinking on educational matters have become sufficiently secularized so that more and more we have turned "instinctively" to the state or the city as the proper agency for the support and control, not only of elementary and secondary, but also of higher education.

The influence of secularization is most clearly shown in the inception of the University of Akron and the Municipal University of Wichita. Buchtel College was founded by a religious denomination that it might have a college in Ohio under its own control. Within forty years and without any planning—simply through the logic of events—it ceased to be a denominational school either in financial support or in the character of its student body and became almost entirely a local institution. Its transfer to the city of Akron was the natural consequence of events.[1] Similarly, the transfer of Fairmount College to the city of Wichita took place only after the Congregational Church had been obliged to withdraw a large part of its support and after the college had become largely local in its student body.

From the time of the great commercial development of the later Middle Ages to the present, cities have played an increasingly important part in the life of the time. They have been the great centers of learning and culture, of the struggle for political liberty, and of commercial and industrial development. This has been especially marked in the United States during the last few decades. During that period, cities have come to dominate our political and social, as well as our economic life. We are rapidly becoming an urban rather than a rural people.

The urbanization of our civilization and the increasing complexity of our modern life might almost be said to be synonymous expressions. It is in urbanized areas especially that industrial, political, and social problems are so enormously complex that a much larger number of technically trained specialists and a more general diffusion of liberal education is necessary. It is but natural, therefore, that the people of cities have found existing educational provisions inadequate to their needs and have sought to meet these needs in various new ways. The rapid establishment of public junior colleges, the increasing tendency on the part of privately controlled colleges to adapt their instruction to the needs of urban constituencies, and the development of municipal universities are all evidences of the influence of urban needs on higher education. It is noteworthy that all these movements have made most rapid progress during the last three decades The recognition that modern city life creates peculiar opportunities and obligations for institutions of higher learning led in 1914 to the organization of the Association of Urban Universities. It includes in its membership state, private, and municipal universities. Meetings are held annually for the consideration of urban educational problems.[2]

[1] To say this, of course, is not at all to detract from the wisdom of President Kolbe, under whose leadership the transfer was made. His work in planning and carrying through the transfer was a work of real educational statesmanship *because* he had the vision to discern the signs of the times and the courage and skill intelligently to direct the movement of social forces.

[2] There is a growing body of educational literature on this important topic. The most recent contribution is the series of articles by President P. R. Kolbe on "Urban Influences in Higher Education in England." See *School and Society*, 27:1-9, 57-62, 124-130, January 7 and 21, and February 4, 1928.

ON THE FIRING LINE

At the Louis Andrews Junior High School in Massillon, pupils who are low in certain subjects are sent to a special teacher. These pupils receive special instruction until they consider themselves able to re-enter regular classes.

A leave of absence for the academic year of 1927-28 has been granted to Dr. C. C. McCracken, of the Department of School Administration. During that period he will be engaged in conducting a survey of the fifty-four collegiate institutions which are under the auspices of the General Education Board of the Presbyterian Church. Dr. McCracken is Research Secretary of the Board.

A group of thirteen games to be used in presenting certain subject-matter in the primary and elementary grades has been mimeographed by the Department of School Administration. These were submitted by teachers and principals to Dr. E. E. Lewis, in School Administration 621. The games given on the mimeographed sheets are intended merely as illustrative material. They demonstrate how the activity and interest of pupils may be stimulated and maintained through the use of games.

One hundred seven teachers and principals in Columbus were recently asked three questions concerning the book equipment which they desired for their classroom or for the subjects they teach. The questionnaire was sent out, and the results compiled, under the direction of the Department of School Administration. "How many different titles do you want as basic textbooks on the subject you teach?" "How many supplementary titles do you want for your class and in what ratio?" and "How many different titles do you want in your classroom library?" were the questions asked. The ratio of books desired ranged from one book to three pupils in first-grade reading to one book for each fifteen pupils in fourth-grade hygiene. The number of books for each student decreases from the lower grades to the junior high school, but the number of different titles desired in the classroom library increases, except for Grade III. Forty-two are requested in Grade I; 90, in Grade II; 71, in Grade III; 139, in Grade IV; 175, in Grade V; 259, in Grade VI; and in junior high school, 719.

The Kent Public Schools report the results of the English tests given in all grades above the second during the fall. Superintendent Walls, in his report on the tests, writes: "These tests are certainly a challenge to our teaching of English. As you know, English is the only subject in the curriculum which is required for eleven years. Our showing in this test is very much below what we had hoped for or desired." The report shows the actual conditions as found for each grade group, explains these conditions, and offers suggestions for improvement, all of which makes it a good report.

REMEDIAL INSTRUCTION IN HIGH-SCHOOL SHORTHAND

It has long been the belief of the teachers of commercial subjects at Collinwood High School, Cleveland, that many of the difficulties experienced by shorthand pupils have their

origin in a lack of knowledge of correct grammatical usage and proper sentence structure, and a low ability in spelling. Many failures of pupils to transcribe accurately their notes have been traced directly to these shortcomings.

With the thought that the correction of such defects was not a proper assignment for the commercial department, a plan for remedial instruction for pupils in stenography was organized by Mrs. Mabel S. Finley, of the English department and instituted for the first time this semester—1927-28. Under the provisions of this project, all beginning shorthand pupils were given the O'Rourke Grammar Survey Tests, Form A, and selected word lists from the Buckingham Extension of the Ayres Spelling Scale. All pupils who failed to attain a predetermined minimum in each test were organized in classes for such special instruction as a diagnosis of their individual performance suggested. The instruction is almost entirely individual—the pupils progress at various rates and, upon the completion of an established minimum of proficiency, are excused from further participation. This greatly motivates interest in rapid accomplishment, since the course is assigned to the participants without credit. The instructors in shorthand are agreed that the results are both favorable and pronounced, and that many failures in shorthand will be eliminated as a result of the improvement in fundamental language ability.

F. L. Simmons
Cleveland

PARALLEL ABILITY GROUPING

For three years South High School, Cleveland, has been using a plan of grouping in ninth- and tenth-year English and mathematics. This has now passed the experimental stage and is accepted as part of the regular program. The plan more or less combines the advantages of ability grouping with a flexibility of programs which makes it possible to place pupils in different ability groups at any and such times as their progress may warrant.

Students registering in either of the subjects are divided into two groups; the rapid group is designated as X, and the slower as Y. The school program is so planned that these classes parallel each other, that is, two classes in each subject are meeting at the same time. The pupils are divided into X and Y groups about two to three weeks after the beginning of the term, and may thereafter be changed from one group to the other as their ability or need may indicate. The X group studies an enriched course, giving much attention to thought development and individual expression. The Y group keeps pace, but it pays careful attention to fundamentals and thorough drill work. In this way, a change may be made at any time without handicapping the student.

This parallel grouping, as we call it, has definite advantages. First, each pupil at all times may be kept working up to the level of his ability. Second, the desirable phases of a homogeneous group are in a great measure retained. Third, the percent of failures in X classes is very low, while in the Y groups it is about the same as the previous ten-term average under the mixed-group plan. Fourth, no clerical work is involved. Fifth, the pupils like the plan, as is evidenced by the whole-hearted pupil activity and efficiency in achievement which has resulted.

William O. Smith
Cleveland

EDUCATIONAL READINGS

WORCESTER, D. A. *A Source of Waste in the Professional Training of Teachers, JER*, 17:117–24, February, 1928.

This article is an arraignment of the instruction given in the departments of education in a few unnamed institutions. Teaching what the students already know, undue overlapping in the materials taught in courses bearing different names, and assuming that students already know certain facts of which they were really ignorant are some of the facts mentioned here.

VIELE, ADA B. *Adjustments for Individual Differences Made in Junior High Schools, JER*, 17:108–12, February, 1928.

From the replies to a questionnaire received from 32 junior-high principals the author of this article summarizes the different provisions for individual differences at this educational level. These included several varieties of homogeneous grouping, flexible promotion, varied curriculum, and extra-curricular activities. Little scientific experimentation has been done in the search for teaching methods best adapted to junior high-school pupils of different ability.

VOGEL, MABEL, AND WASHBURNE, CARLETON. *A Year of Winnetka Research, JER*, 17:90–101, February, 1928.

Few school systems in the country are so universally known as the Winnetka system, and few are as courageously submitting their practices to scientific investigation. These investigations are not conducted by educational experts from without the system but are carried on by teachers within the system under the guidance of experts. Studies in arithmetic, language, spelling, and reading are briefly described in this article. The reader's curiosity to know the details of some of these studies can be satisfied, for at the end of the article the author tells where the detailed descriptions of several of the projects will appear.

GOOD, CARTER V. *English Objectives and Constants in Secondary Schools, PJE*, 5:230–35, January, 1928.

A canvass was made of secondary courses of study secured from state departments of education and large city systems. The author found twenty-seven objectives under composition, thirty-one under literature, sixteen under oral English, six under written English, one under grammar, three under penmanship, two under public speaking, three under reading, and three under spelling. English is found to be a constant in all grades of junior high school and in the first three years of the four-year senior high school.

BARR, A. S. *Needed Research in Classroom Supervision, PJE*, 5:209–15, January, 1928.

The seven sectional headings under which this article is arranged will serve to indicate its tenor: (1) "Need for exact information about which the thing is to be improved; (2) Need of more information about the probable effectiveness of different training programs; (3) Need for more information about the validity, objectivity, and reliability of the items of teaching observed by supervisors; (4) Need of experimentally determined principles of teaching; (5) Need for more information about the improvability of teachers; (6) Need for more information about the relative effectiveness of various improvement devices; and (7) Need for more exact measures of teaching ability."

MORT, PAUL R. *School Surveys and Adjustments of School Organization and Teaching Procedure to Individual Needs, TCR*, 29:404–08, February, 1928.

A classified list of educational problems which need to be studied is presented in this article. Thirty-four problems are listed under fourteen headings, from "adjustment to low ability" to "college preparation", and "adjustment to educational plans."

SMITH, NILA BANTON. *A Technique in Training Principals to Supervise Instruction, ESJ*, 28:417–28, February, 1928.

Realizing the lack of opportunities for thorough training in teaching special subjects, the author devised a method of assisting principals to supervise instruction in elementary reading. The principals of the Detroit schools voluntarily cooperated in the study of modern tendencies and fundamental methods in reading with the

NOTE.—The abbreviations used in this number are: *JER*, Journal of Educational Research; *PJE*, Peabody Journal of Education; *TCR*, Teachers College Record; *ESJ*, Elementary School Journal; *EER*, Elementary English Review; *EJ*, English Journal; and *SR*, School Review.

hope of learning to supervise more adequately. Lectures, classroom observation, and round-table discussion were the main avenues of work. Definite standards set up for the principals' guidance were used in judging observation lessons, and these judgments were later discussed. True-false questionnaires were answered by the principals to test how well they had absorbed the information and suggestions received. These tests covered the basic principles in reading and possible ways of improving the supervision of reading. The plan seems decidedly worth while.

WOODRING, MAXIE N., AND FLEMMING, CECILE WHITE. *A Partial Bibliography on Study*, *TCR*, 29:417–44, February, 1928.

This bibliography of 143 items is one of the most comprehensive and usable on the subject of study. The wide diversity of opinions reflected in the summaries of the references listed in the article serves to emphasize the complexity of the problem and also indicates that we are a long way from the solution.

JUDD, CHARLES H. *The Unique Character of American Secondary Education*, *SR*, 36:95–117, February, 1928.

Dr. Judd is a firm believer in and a defender of universal secondary education. In this, the Inglis Lecture at Harvard, he answers the home critics, and shows that the trend in European countries is toward public secondary education and more flexible courses, two prominent characteristics of education in this country. Dr. Judd recognizes the problems peculiar to such education but prefers a solution in keeping with the American system rather than its abandonment.

ARCHER, CLIFFORD. *Transfer of Training in Spelling*, *EER*, 5:55–61, February, 1928.

A series of six experiments was carried on in an attempt to determine what effect the study of one word has upon another in all types of conditions and complexities. Upon the data gathered, the writer bases a number of conclusions, several of which are given here. Positive transfer occurred in equal amounts between the base form, *s*, *ed*, and *ing* forms, while negative transfer occurred from base and *s* forms to *ed* and *ing* forms in the doubling of final consonants. Transfer also occurred to words with prefixes added and to words with prefixes removed, and in proportion to similarity of materials.

COMMITTEE OF THE WISCONSIN ENGLISH TEACHERS' ASSOCIATION. *Report on a Minimum Grammar EJ*, 17:213–19, February, 1928.

The purpose of this Committee in offering a possible course of study has been to suggest what it considered one reasonable order of treating the necessary grammatical topics. The outlines are given for the grades in junior and senior high school. Mastery of the various items within the course "is likely to be secured best by a good deal of individual work in the classroom."

STOLPER, B. J. R. *Literary Perspective for High-School Pupils*, *TCR*, 29:391–96, February, 1928.

The author is trying an experiment which is designed to give high-school students a world view of literature. To the student under modern teaching the world of literature seems to begin in England and end in the United States. The new course presents world literature with American and English literature as a background. Abundant use is made of maps, charts, and pictures. It is too early to make conclusions concerning the success of the experiment, but the idea should be accorded a thorough trial.

GRAY, WILLIAM SCOTT. *Summary of Reading Investigations (July 1, 1926, to June 30, 1927)*, *ESJ*, 28:443–59, February, 1928.

This article is the third supplement to Mr. Gray's monograph, *Summary of Investigations Relating to Reading*, published in 1925, which contained studies reported prior to July 1, 1924. The series is a continuous compilation. Briefs of 113 magazine articles reported between July 1, 1926, and June 30, 1927, are here given as well as a list of books "dealing with the importance of reading and with the problems of teaching reading" published during the year 1926–27.

PARKER, EDITH P. *Selection of Map Equipment for Elementary Schools*, *ESJ*, 28: 429–35, February, 1928.

The author of this article says that "the efficient selection of maps for work in geography necessitates on the part of the chooser an understanding of the point of view of modern geography and considerable insight into the distinctive function of maps in geographical training . . . . . So long as the choice of map equipment is made by those who do not have such familiarity with maps and map work or do

not seek the advice of those who have it, waste will continue."

Eleven questions to consider in purchasing a wall map are given. These 11 questions serve as a checking list which should be of value to any who are contemplating the purchase of maps. The chief factors mentioned are suitability, usability, accuracy, clearness, durability, cost, and values to be gained.

IN PAPER COVERS

CRABB, ALFRED LELAND. *A Study in the Nomenclature and Mechanics Employed in Catalogue Presentations of Courses in Education.* Nashville, Tennessee, George Peabody College for Teachers, 1926. 98 pp. (George Peabody College for Teachers, Contributions to Education, No. 21)

Dr. Crabb's dissertation is based on a careful study of the titles and descriptions of courses in education as found in the catalogues of eighty-seven institutions—normal schools, teachers' colleges, and graduate schools—located in forty-two states. The study shows that "(1) no uniform standards are now in use either in naming courses or describing them; (2) there is little uniformity in the mechanical arrangement of course descriptions; (3) a gross total of 1,550 course titles are listed; (4) excluding duplicates and titles obviously the same though with slightly different wording, there remain 1,397 different titles."

HULL, OSMAN R., AND FORD, WILLARD S. *School Housing Survey for The Monrovia Union High School District.* Los Angeles, California, University of Southern California, 1927. 48 pp. (University of Southern California Studies, Second Series, No. 2)

The Monrovia Union High School district consists of a group of three elementary districts which are consolidated for high-school purposes only, under the control of a board of five trustees elected at large. To forecast population, the ratio of water meters, electric meters, gas meters, and the average daily attendance of elementary pupils to population have been taken as a basis for the estimates. In using this technique two factors which effect the use of certain types of public utilities should be borne in mind, namely, actual increase in population and increase in the ratio of families availing themselves of these conveniences.

The Scheduling of Teachers' Salaries. Washington, Research Division, 1927. 192 pp. (Research Bulletin of the National Education Association, Vol. 5, No. 3)

This number of the Research Bulletin covers three phases of the problem of scheduling teachers' salaries. These are, first, the nation's ability to lift teacher compensation to a professional level; second, the economic position of public-school teachers, and, third, the guides to salary-scheduling.

In the discussion of salary-scheduling it is pointed out that any salary schedule, to function properly, must have a reasonable degree of flexibility in order that exceptional individuals may receive both the recognition and remuneration that is due them. Comparison is made between the increase in the average income of gainfully occupied persons and average salaries of public-school teachers in the United States for the period 1922 to 1926. The former increased from $1,586 in 1922 to $2,010 in 1926 while the latter increased from $1,166 in 1922 to $1,275 in 1926.

COUNTS, GEORGE S. *The Social Composition of Boards of Education.* Chicago, University of Chicago, 1927. 100 pp. (Supplementary Educational Monographs, No. 33)

This investigation includes 1,654 boards of education. The two major phases of the problem relate to the general organization of boards and to their social composition. The first deals with the number of members, method of selection, term of office, tenure of office, time devoted to board duties, and compensation of board members. The median amount of time devoted to school board duties for college and university boards is 51.1 hours; county boards, 46.4 hours; and city boards 51 hours. Eighty-six percent of the city boards, 25 percent of the county boards, and 59 percent of the college and university boards receive no compensation.

The second phase of the study deals with the age, sex, education, and occupation of board members; representation of parents on boards of education; and the type of board of education. The typical city board of education in the United States, as determined by the medians, averages, and central tendencies, consists of six members elected at large for a term of three years. Their ages range from 37 to 63. On the average they devote 51 hours of time per year to school board duties and receive no compensation for their services.

BOOKS TO READ

Educational Yearbook of the International Institute of Teachers College, Columbia University. I. L. Kandel, ed. New York, Macmillan Company, 1927. xv + 596 pp.

The first section of this fourth yearbook of the International Institute of Teachers College, Columbia University, is devoted to the discussion of recent educational conditions in twelve countries of Europe and in United States and Newfoundland. These with the similar discussions in the three previous yearbooks make a total of thirty-three reviews of different educational systems. Part II, as in the last two yearbooks, is devoted to a special theme, in this instance, secondary education in Germany, England, and the United States.

ALMACK, JOHN C. *The School Board Member.* New York, Macmillan Company, 1927. xii + 281 pp.

When one reflects on the mass of educational bulletins, periodicals, and books which come from the press, it would seem that every phase of education had been given attention. Yet, that very important phase—the legislative—has been badly neglected. Dr. Almack essays to fill the gap by writing a book about the school trustee. The style of his book is not academic, dry, nor technical, but interesting and practical. It is the kind of book that should be found on the table in the school board's office. For the sake of comparison, we should like to see a similar book written by an intelligent, conscientious, and experienced school board member.

ROBERTS, ARTHUR C., AND DRAPER, EDGAR M. *The High-School Principal.* New York, D. C. Heath and Company, 1927. xxii + 335 pp.

This is perhaps the least theoretical of the several books which have been written about the work of the high-school principal. It is based on a study and an analysis of the work of 441 principals scattered throughout the United States. Each of the first eight chapters is built around definite objective data obtained in this study and each concludes with a number of case problems related to the subject under discussion in the chapter. President L. D. Coffman says in the Foreword, "The book is not intended to be historical or academic. It is intended to be definitely helpful and practical." That is just what it is, and it is the type of book that has been needed.

GLUECK, ELEANOR T. *The Community Use of Schools.* Baltimore, Williams and Wilkins Company, 1927. xiv+222 pp.

Dean Holmes, in a Foreword to this book, says that it "constitutes an interesting and valuable contribution to the general theory of education and it can be commended as such. No one who reads it can continue to hold the view that school buildings should be restricted to the use of children during the regular hours of the school day." The book presents the results of what is undoubtedly the most exhaustive study of this subject now available. The nature, extent, financial support, and organization of schools for community purposes throughout the country are analyzed. A digest of the various state laws regarding the extended use of school buildings and a twenty-six-page bibliography are found in the Appendixes.

BOOK, WILLIAM F. *How to Succeed in College.* Baltimore, Warwick and York, 1927. 192 pp.

When "only about half of the Freshmen students who entered the University [Indiana University] last year (1926-27) completed their total enrollment during their first semester in a way that was satisfactory to their instructors," and when "sixteen percent of the twelve hundred entering Freshmen failed in about half the courses in which they were enrolled during their first semester in college," it is evident there is serious maladjustment somewhere. Dr. Book and his graduate students have conducted a series of investigations in an effort to diagnose the problem of freshman mortality and to suggest remedial measures. The results are found in this book which is small in size but large in helpfulness.

WAPLES, DOUGLAS. *Problems in Classroom Method.* New York, Macmillan Company, 1927. xxii + 609 pp.

The author has collected a vast amount of data concerning the teaching problems commonly met in the classroom. In Part I he presents about forty case problems together with the solutions proposed by teachers in service. Part II presents a classified list of 424 difficulties that teachers meet.

Instructors in methods courses will find an abundance of illustrative material in the volume. Extensive bibliographies and a carefully prepared index add much to the book's usability.

NEW TESTS

An Art Ability Test, four parts of which have at present been constructed, is being developed and standardized by Dr. Luella W. Pressey, of the Department of Psychology, and Alma Jordan Knauber, lately of the Department of Fine Arts, of Ohio State University. Form A tests certain general information and the personal traits of the individual; Form B is designed to test skill in drawing; Form D gauges artistic appreciation; and Form E determines the art knowledge of those taking the tests.

W. C. Reavis and E. R. Breslich, of the University of Chicago, have recently compiled a set of Diagnostic Tests in Fundamental Operations of Arithmetic and Problem Solving which is published by the University of Chicago Press. There are ten tests in all—eight on fundamentals. A standardized test technique is used in presenting the tests.

The Study-Guide Tests in American History, devised by M. J. Stormzand and published by Macmillan Company, are constructed around the seven divisions or periods into which the history of our country is usually divided. The tests may, therefore, be used with any of the leading school history textbooks, for by comparing the titles of the study-guide lessons with the tables of contents in the textbooks corresponding material is easily found. The periods between 1492 and 1860 are included in Part I, while Part II covers from 1815 to the present.

The tests are arranged after the manner of the usual completion and matching tests. Occasional map studies are introduced. No norms are given since the tests are designed as "study-guides" for preparing the thirty-one lessons given and not as achievement tests. Answers are, however, published separately.

The epidemic of "work-books" continues and there are no signs of abatement. The one now under inspection is New Type Drill Exercises in Elementary Algebra by Elsie Flint Neuner, published by the Charles E. Merrill Company. In the absence of any explanation as to how the problems were chosen and arranged, one gets the impression that it is simply a formal algebra presented under the guise of a workbook. The written problems involve many of the old useless type, written for the sake of solving. There is some good material on graphs, but the old circle graph seems to be given preference against the best practices advocated by specialists. The individual record chart simply provides places for recording the grades and averages, and ignores the opportunity for making graphs. The book may prove a convenient device for class use especially, where the old-type algebra is taught.

The World Federation of Education Associations, an organization to further educational interests and to serve as a clearing-house for the best educational thought in the world, will soon begin a campaign for a ten million dollar fund. This is being requested in order to put the Federation on an enduring basis. One of the chief objectives is the removal of illiteracy throughout the world—a most ambitious goal since, at the present time, sixty percent of the population is illiterate.